

PROTOCOL P250

INSTALLATION GUIDE

JANUARY 1986

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SIGN OUT AND RETURN**

P250.1G2.0.JA86

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INTRODUCTION

The P250 is a high performance packet assembler/disassembler designed to enable data communication equipment functioning with synchronous protocols to interface with communications networks that utilize packet switching techniques and operate under the International X.25 Standard.

The P250 is available either as a stand alone unit or mounted in a card cage assembly. Each P250 is equipped with two synchronous ports, Channel A and Channel B. Channel A functions as the X.25 Network Port, while Channel B functions as a native port capable of supporting up to 32 synchronous devices.

The P250 Installation Guide contains diagrams and instructions describing the physical specifications, installation guidelines, hardware configuration, and switch settings for both the stand alone unit and the card cage versions of the P250. Also included are diagrams illustrating possible network configurations involving the P250.

The P250 offers a wide range of configurable software parameters designed to optimize the unit's performance. For a detailed explanation of these parameters and examples of their form, syntax and implementation please refer to Chapter 5 'Extended Synchronous Parameters' of the P2500 Technical reference Manual.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

FIGURE 1
P250 STAND-ALONE UNIT

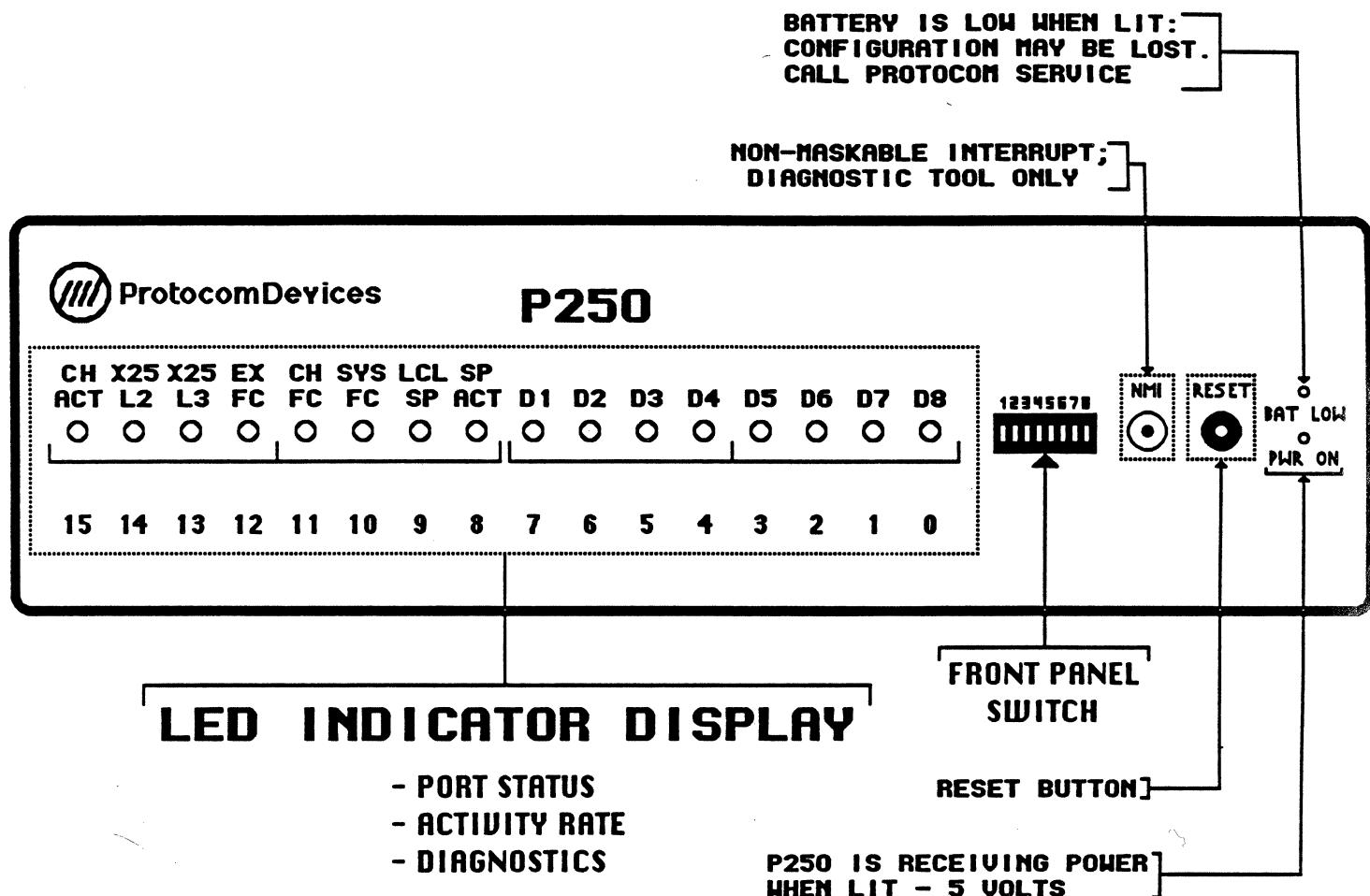


FIGURE 2
LED PANEL
[STAND-ALONE UNIT]

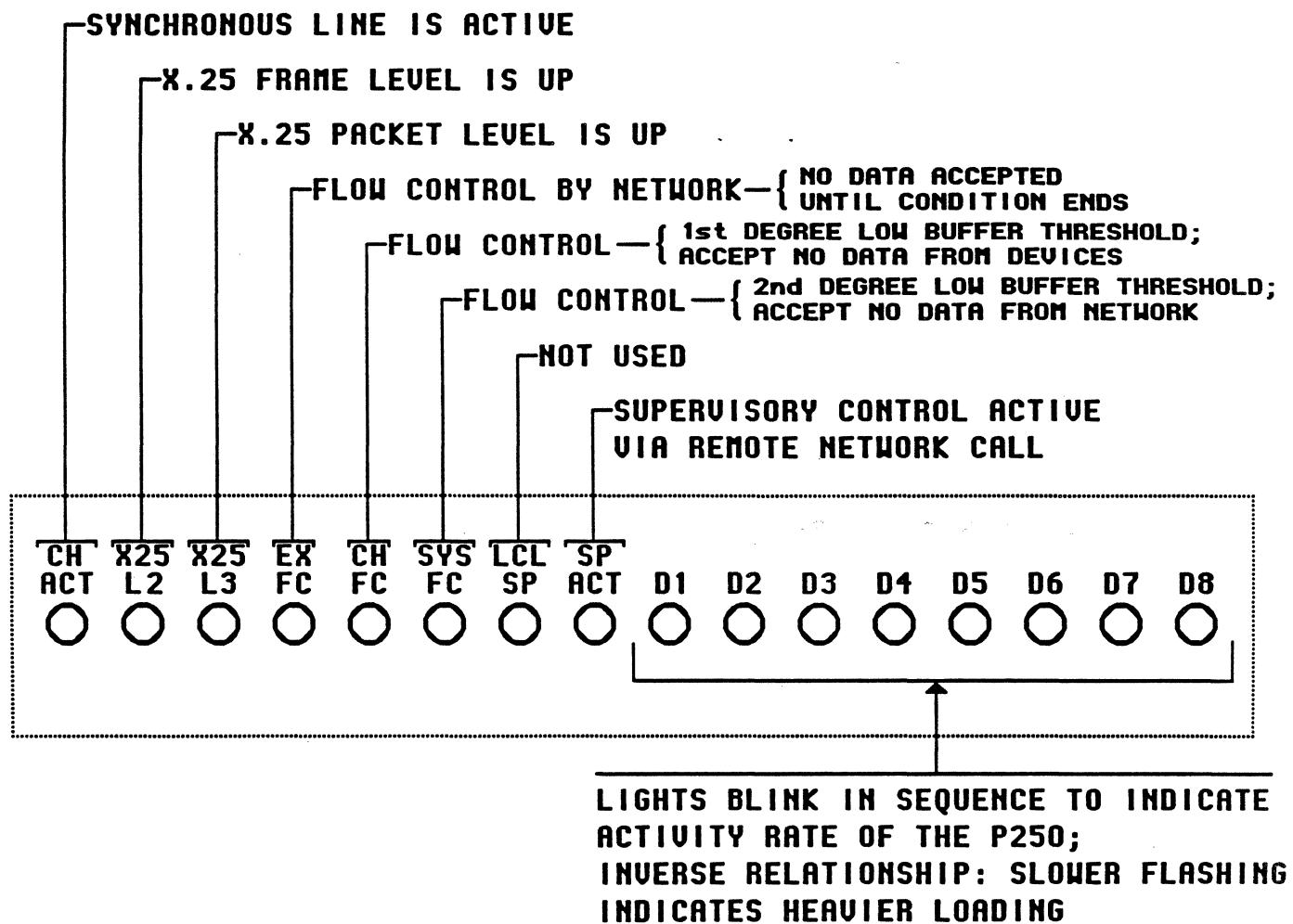
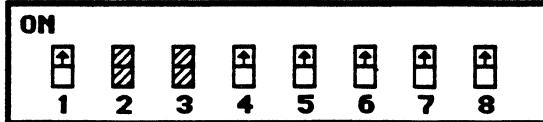


FIGURE 3
FRONT PANEL SWITCH
[LOCATED ON FACE OF P250]
[STAND-ALONE UNIT]

SWITCH SETTINGS ON

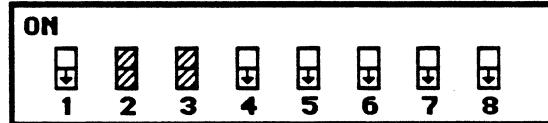
□ = SWITCH ON



- <1> CCITT NETWORKS
- <2> UNUSED
- <3> UNUSED
- <4> RETAIN CONFIGURATION
- <5> TPAD
- <6> HALF-DUPLEX
- <7> CHANNEL B - NATIVE SYNC PORT - DCE
- <8> CHANNEL A - X.25 PORT - DCE

SWITCH SETTINGS OFF

□ = SWITCH OFF



- <1> TELNET
- <2> UNUSED
- <3> UNUSED
- <4> COPY CONFIGURATION DEFAULTS
- <5> HPAD
- <6> FULL DUPLEX
- <7> CHANNEL B - NATIVE SYNC PORT - DTE
- <8> CHANNEL A - X.25 PORT- DTE

NOTE :

**RESET BUTTON MUST BE PRESSED
FOR ALL ACTIONS TO TAKE PLACE!**

FIGURE 4
CARD CAGE MODEL

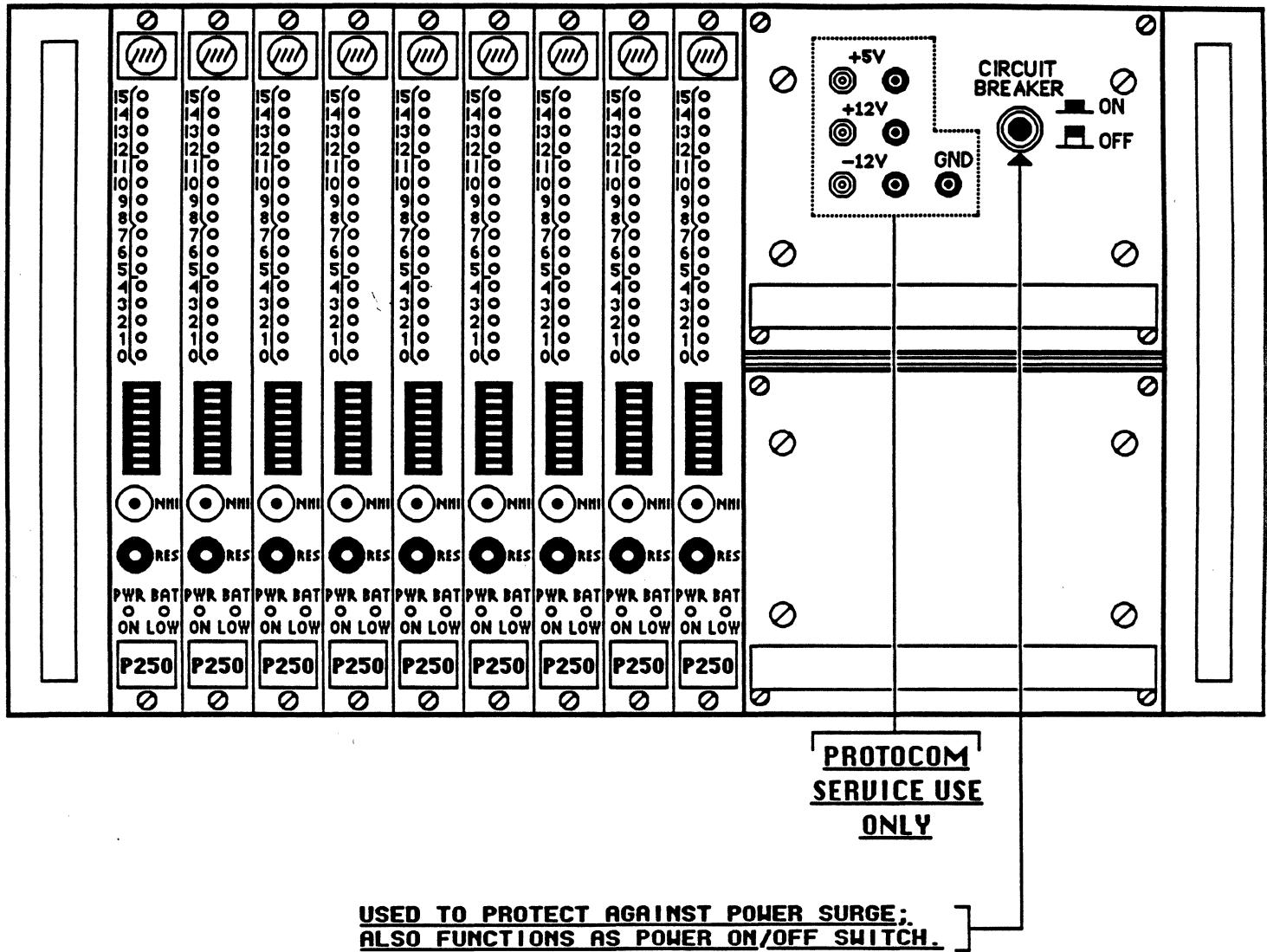


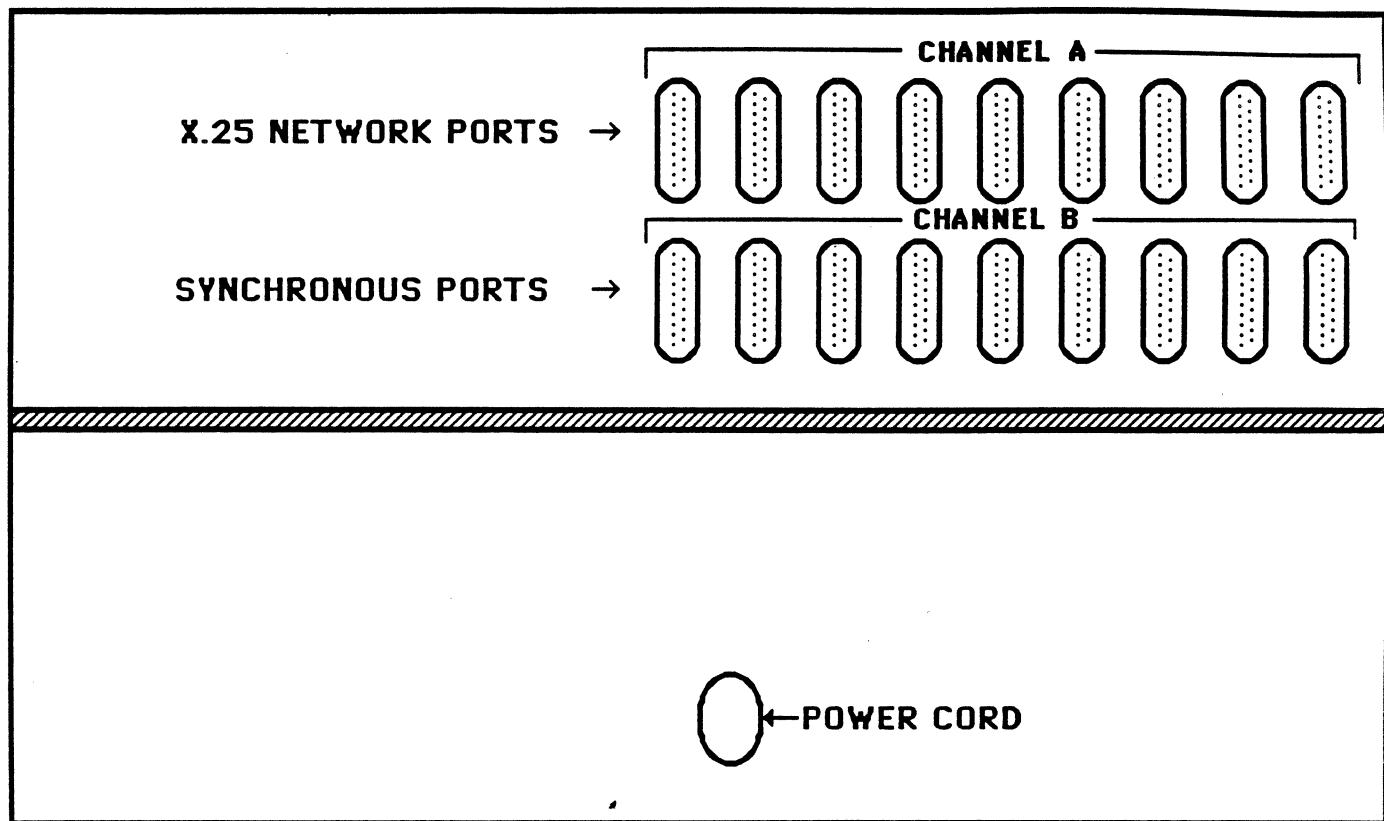
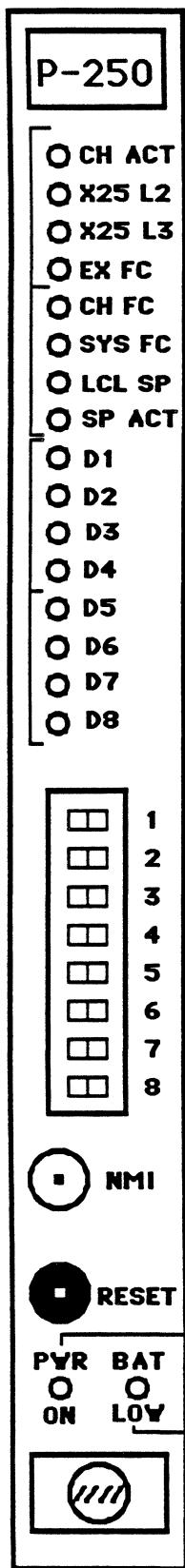
FIGURE 5BACK OF CARD CAGE

FIGURE 6
P250 FRONT PANEL
[CARD CAGE MODEL]



**TOP CARD EJECTOR - CLIPS IN PLACE AUTOMATICALLY ON INSTALLATION
 TO EJECT CARD - PUSH UP AND PULL (PUSH DOWN AND PULL BOTTOM
 EJECTOR AT SAME TIME)**

LED INDICATOR DISPLAY

- PORT STATUS
 - ACTIVITY RATE
 - DIAGNOSTICS
- [SEE FIGURE 2]

FRONT PANEL SWITCH

[SEE FIGURE 3]

NON-MASKABLE INTERRUPT - DIAGNOSTIC TOOL ONLY

RESET BUTTON

P250 IS RECEIVING POWER WHEN LIT - 5 VOLTS

BATTERY IS LOW WHEN LIT: CONFIGURATION MAY BE LOST. CALL PROTOCOL SERVICE.

**BOTTOM CARD EJECTOR - CLIPS IN PLACE AUTOMATICALLY ON INSTALLATION.
 TO EJECT CARD - PUSH DOWN AND PULL (PUSH UP AND PULL TOP
 EJECTOR AT SAME TIME)**

FIGURE 7
LED PANEL
[CARD CAGE MODEL]

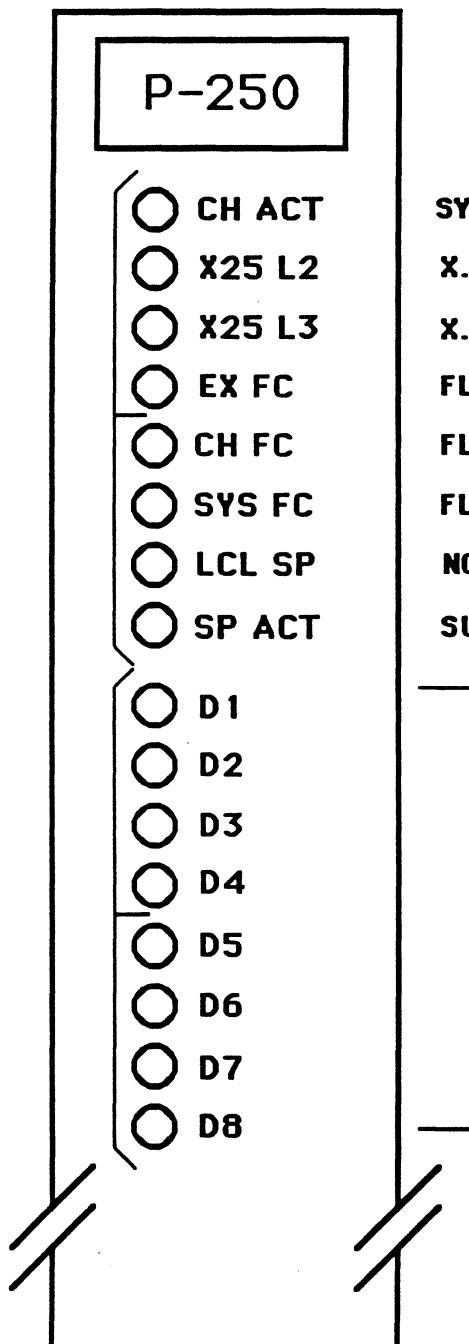


FIGURE 8FRONT PANEL SWITCH**[LOCATED ON FACE OF P.C. BOARD]****[CARD CAGE MODEL]** **= SWITCH OFF** **= SWITCH ON****OFF****ON**

TELENET	<input type="checkbox"/>	0	1	<input checked="" type="checkbox"/>	0	CCITT NETWORKS
UNUSED	N	<input checked="" type="checkbox"/>	2	N	<input checked="" type="checkbox"/>	UNUSED
UNUSED	G	<input checked="" type="checkbox"/>	3	G	<input checked="" type="checkbox"/>	UNUSED
COPY CONFIGURATION DEFAULTS	<input checked="" type="checkbox"/>		4	<input checked="" type="checkbox"/>		RETAIN CONFIGURATION
HPAD	G	<input type="checkbox"/>	5	G	<input type="checkbox"/>	TPAD
FULL DUPLEX	G	<input type="checkbox"/>	6	G	<input type="checkbox"/>	HALF DUPLEX
CHANNEL B - NATIVE SYNC PORT - DTE	L	<input type="checkbox"/>	7	L	<input type="checkbox"/>	CHANNEL B - NATIVE SYNC PORT - DCE
CHANNEL A - X.25 PORT - DTE	G	<input type="checkbox"/>	8	G	<input type="checkbox"/>	CHANNEL A - X.25 PORT - DCE

NOTE :**RESET BUTTON MUST BE PRESSED
FOR ALL ACTIONS TO TAKE PLACE!**

FIGURE 9
P250 PC BOARD

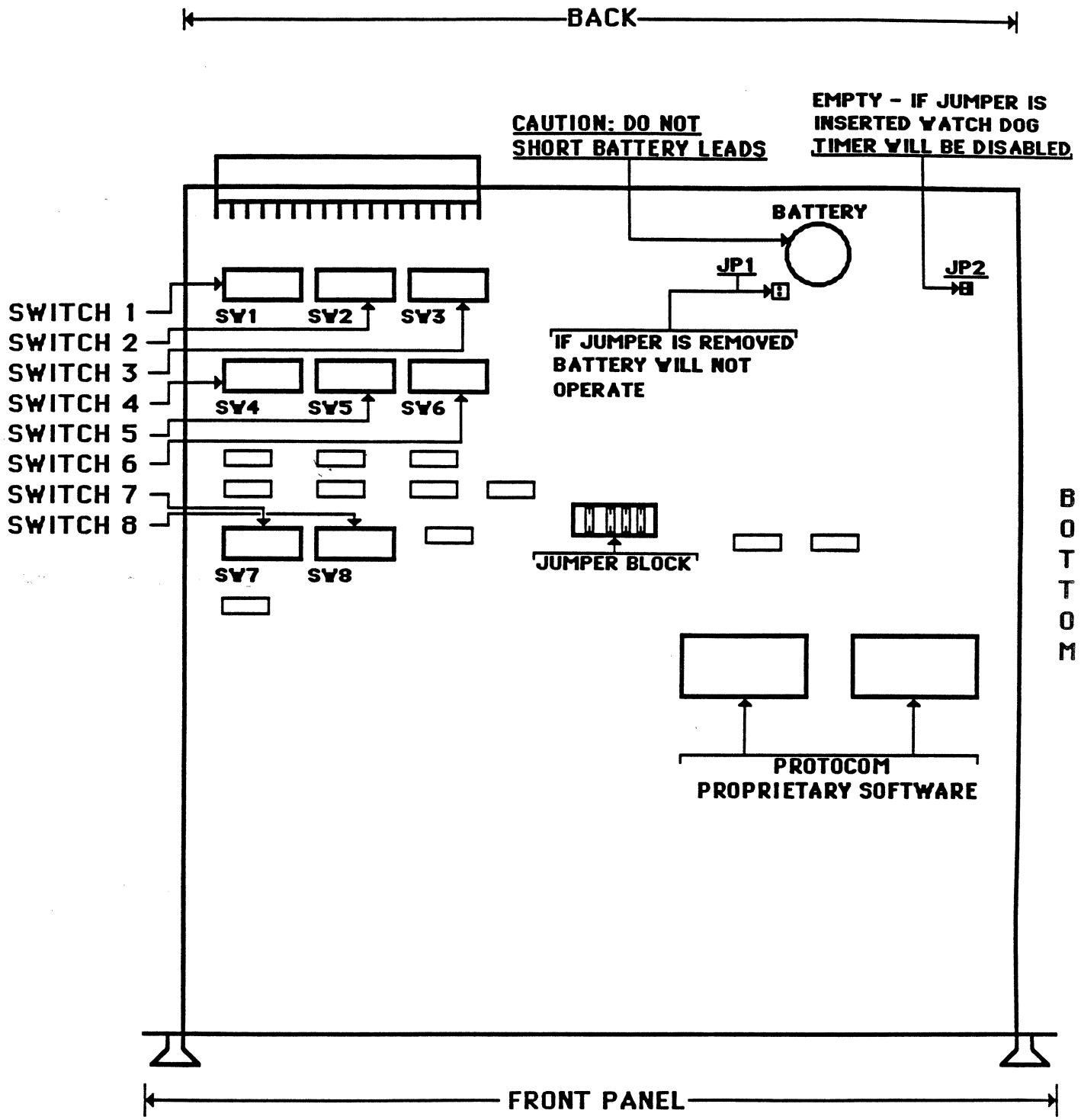
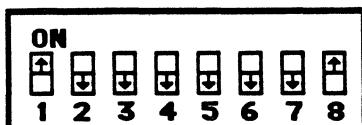
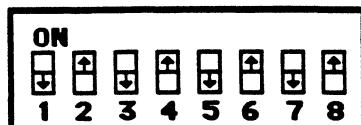
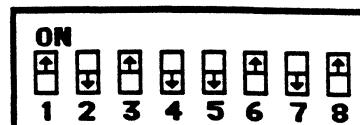


FIGURE 10SWITCH DESIGNATIONS - SWITCHES 1-8CHANNEL A - X.25 PORT DCE

SWITCH 1-HEX 81



SWITCH 2-HEX 55



SWITCH 3-HEX A5



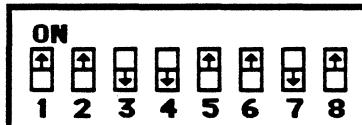
SWITCH 4



SWITCH 5



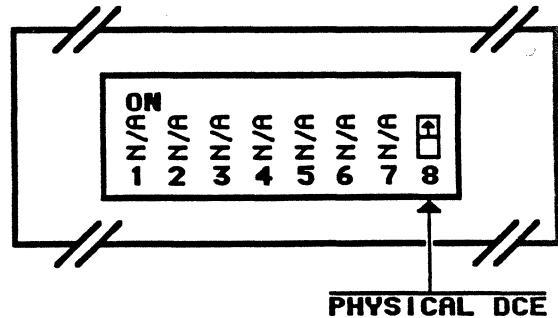
SWITCH 6



SWITCH 7-HEX CD



SWITCH 8

FRONT PANEL SWITCH

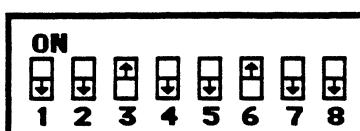
⊕ = SWITCH ON

⊖ = SWITCH OFF

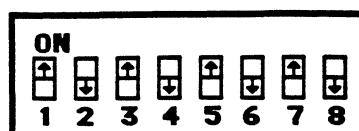
N/A = NOT APPLICABLE

FIGURE 11
SWITCH DESIGNATIONS - SWITCHES 1-8

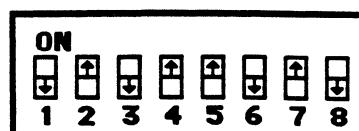
CHANNEL A - X.25 PORT DTE



SWITCH 1-HEX 24



SWITCH 2-HEX AA



SWITCH 3-HEX 5A



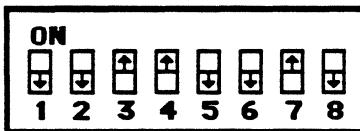
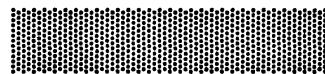
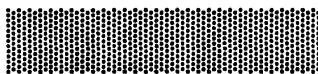
SWITCH 4



SWITCH 5



SWITCH 6

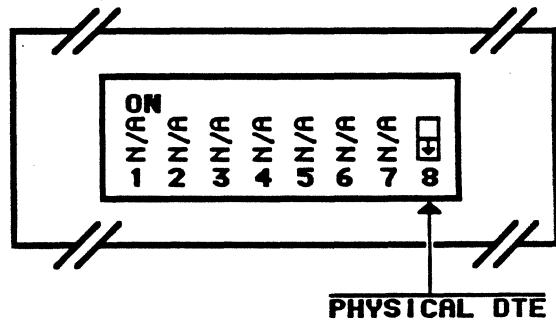


SWITCH 7-HEX 32



SWITCH 8

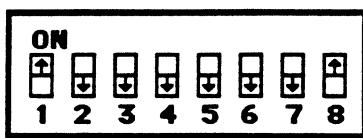
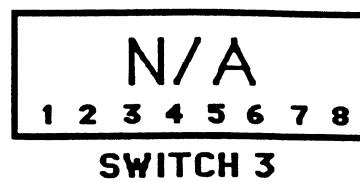
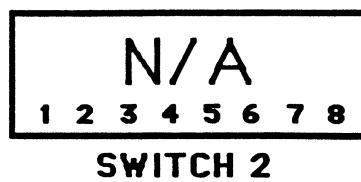
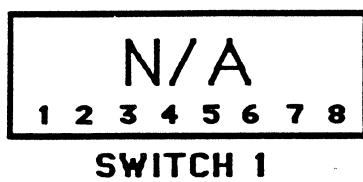
FRONT PANEL SWITCH



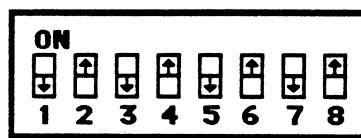
= SWITCH ON

= SWITCH OFF

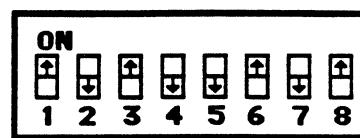
N/A = NOT APPLICABLE

FIGURE 12SWITCH DESIGNATIONS - SWITCHES 1-8CHANNEL B - NATIVE SYNCHRONOUS PORT - DCE

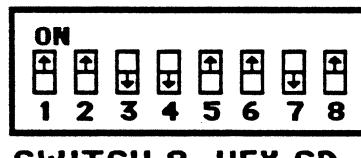
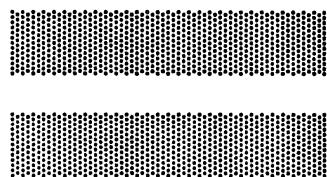
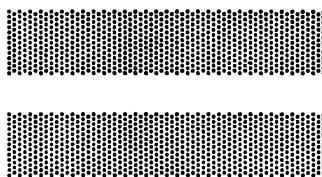
SWITCH 4-HEX 81



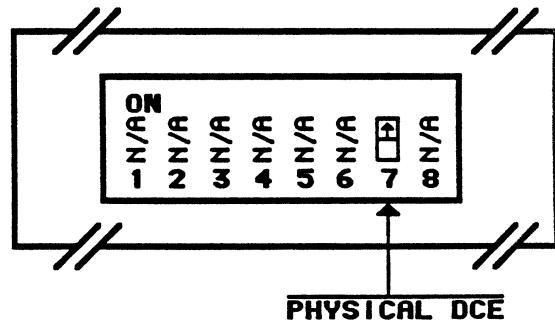
SWITCH 5-HEX 55



SWITCH 6-HEX A5



SWITCH 8-HEX CD

FRONT PANEL SWITCH

= SWITCH ON

= SWITCH OFF

N/A = NOT APPLICABLE

FIGURE 13
SWITCH DESIGNATIONS - SWITCHES 1-8

CHANNEL B - NATIVE SYNCHRONOUS PORT - DTE



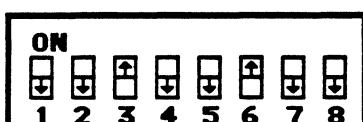
SWITCH 1



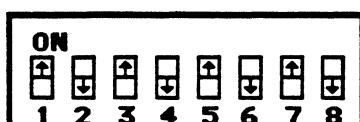
SWITCH 2



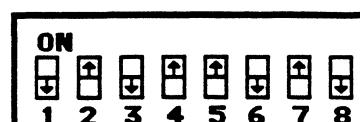
SWITCH 3



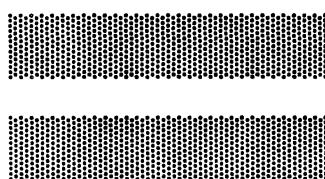
SWITCH 4-HEX 24



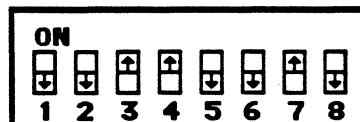
SWITCH 5-HEX AA



SWITCH 6-HEX 5A

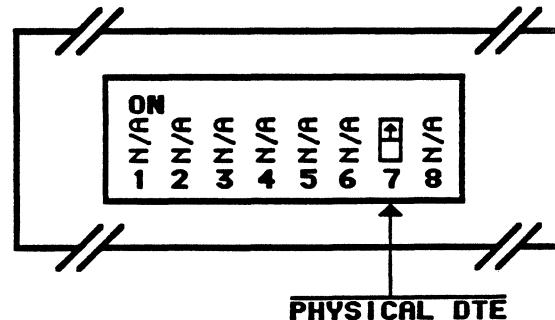


SWITCH 7



SWITCH 8-HEX 32

FRONT PANEL SWITCH



= SWITCH ON

= SWITCH OFF

N/A = NOT APPLICABLE

FIGURE 14

P250 \longleftrightarrow NETWORK CONFIGURATIONS

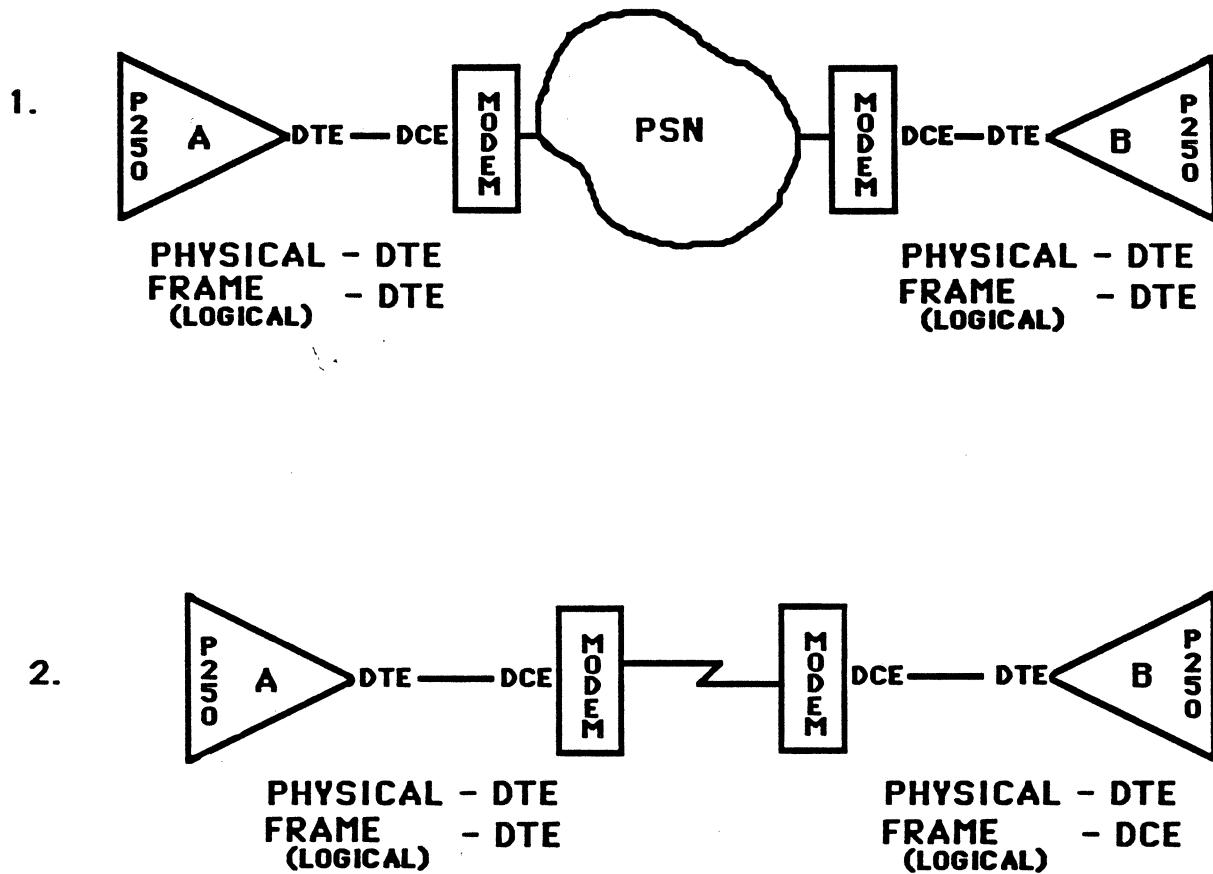
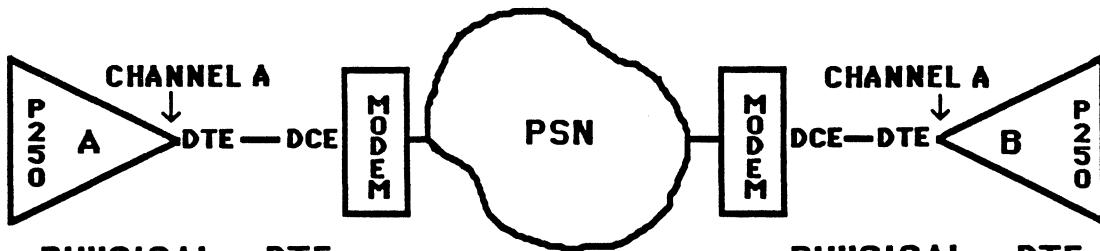


FIGURE 15

P250(A) \longleftrightarrow X.25 NETWORK \longleftrightarrow P250(B)

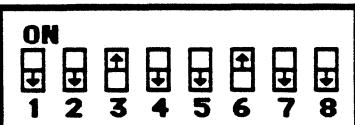


PHYSICAL - DTE
FRAME - DTE
(LOGICAL)

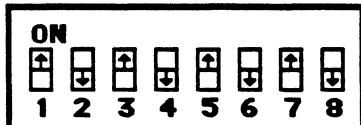
PHYSICAL - DTE
FRAME - DTE
(LOGICAL)

- = SWITCH ON
- = SWITCH OFF

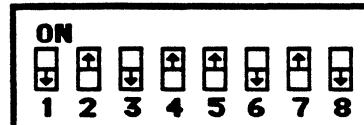
CHANNEL A
SWITCHES
PHYSICAL DTE



SWITCH 1-HEX 24



SWITCH 2-HEX AA



SWITCH 3-HEX 5A



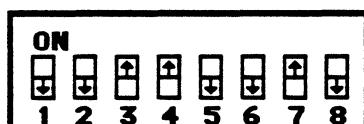
SWITCH 4



SWITCH 5



SWITCH 6

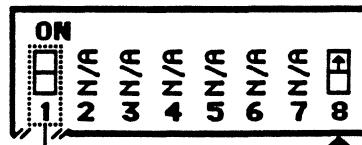


SWITCH 7-HEX 32



SWITCH 8

FRONT PANEL SWITCH



PHYSICAL DCE

- = CCITT
- = TELENET

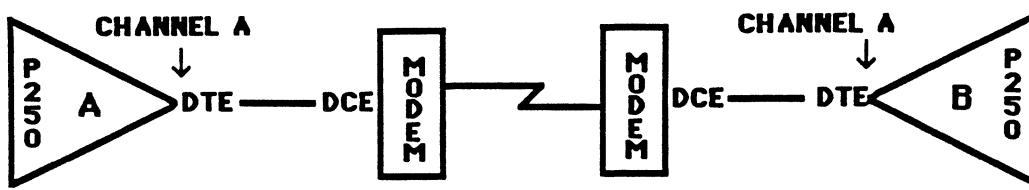
CABLE - STRAIGHT THROUGH

PARAMETERS

FRAME LEVEL: LOGICAL DTE
(DEFAULT SETTING)

FIGURE 16

P250 \longleftrightarrow LEASED LINE \longleftrightarrow P250



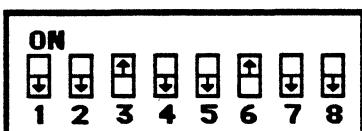
PHYSICAL - DTE
FRAME - DTE
(LOGICAL)

PHYSICAL - DTE
FRAME - DCE
(LOGICAL)

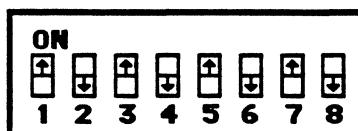
**CHANNEL A
SWITCHES
PHYSICAL DTE**

= SWITCH ON

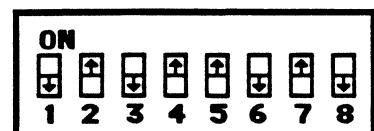
= SWITCH OFF



SWITCH 1-HEX 24



SWITCH 2-HEX AA



SWITCH 3-HEX 5A



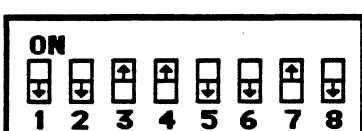
SWITCH 4



SWITCH 5



SWITCH 6

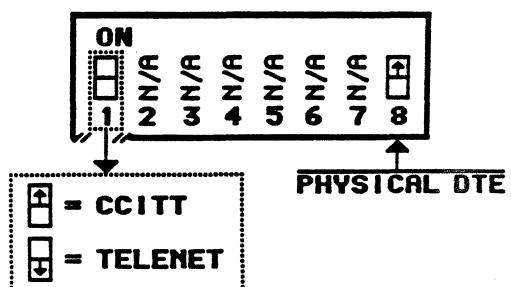


SWITCH 7-HEX 32



SWITCH 8

FRONT PANEL SWITCH



CABLE - STRAIGHT THROUGH

PARAMETERS

FRAME LEVEL: P250 [A] - LOGICAL DTE
(DEFAULT SETTING)
P250 [B] - LOGICAL DCE

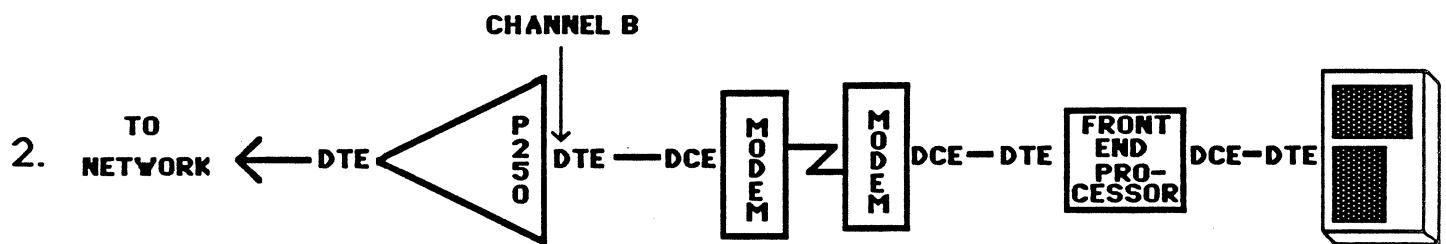
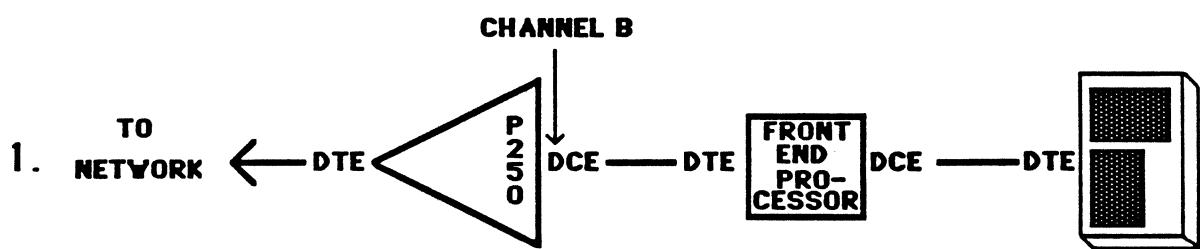
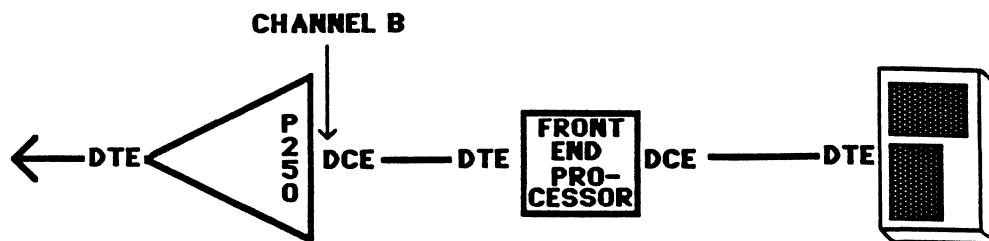
FIGURE 17P250 HOST PAD CONFIGURATIONS

FIGURE 18P250(HPAD) \longleftrightarrow SYNCHRONOUS HOST

**CHANNEL B
SWITCHES
PHYSICAL DCE**

= SWITCH ON

= SWITCH OFF



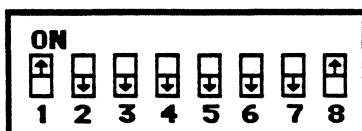
SWITCH 1



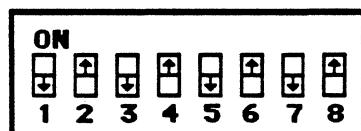
SWITCH 2



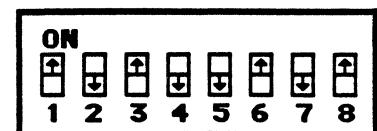
SWITCH 3



SWITCH 4-HEX 81



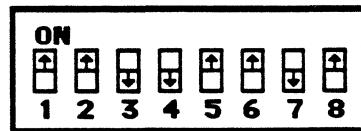
SWITCH 5-HEX 55



SWITCH 6-HEX A5



SWITCH 7



SWITCH 8-HEX CD

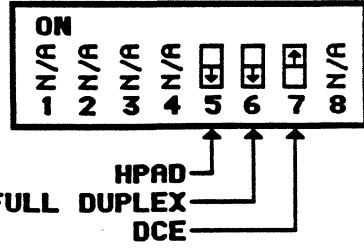
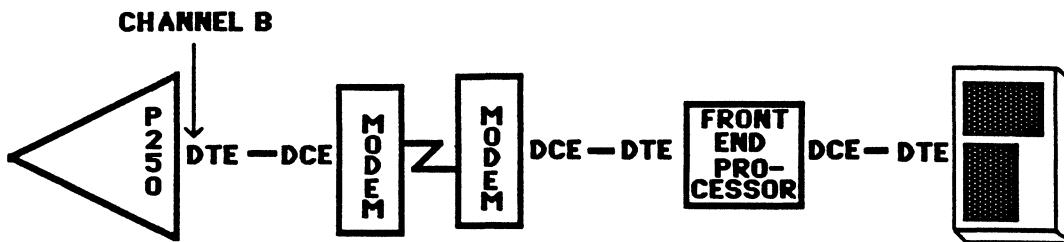
FRONT PANEL SWITCHCABLE - STRAIGHT THROUGHPARAMETERS - N/A

FIGURE 19

P250(HPAD) \longleftrightarrow MODEM



**CHANNEL B
SWITCHES
PHYSICAL DTE**

= SWITCH ON

= SWITCH OFF



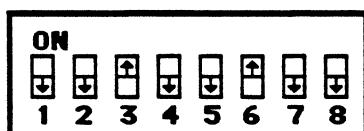
SWITCH 1



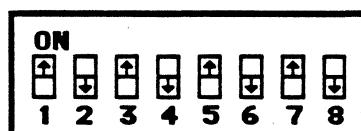
SWITCH 2



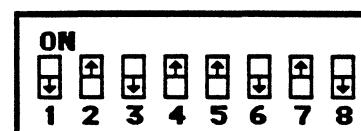
SWITCH 3



SWITCH 4-HEX 24



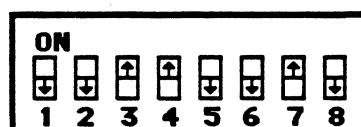
SWITCH 5-HEX AA



SWITCH 6-HEX 5A

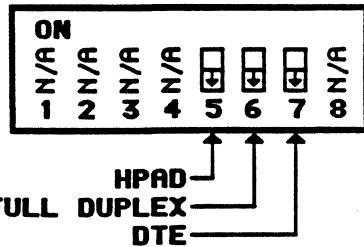


SWITCH 7



SWITCH 8-HEX 32

FRONT PANEL SWITCH



CABLE -STRAIGHT THROUGH

PARAMETERS -N/A

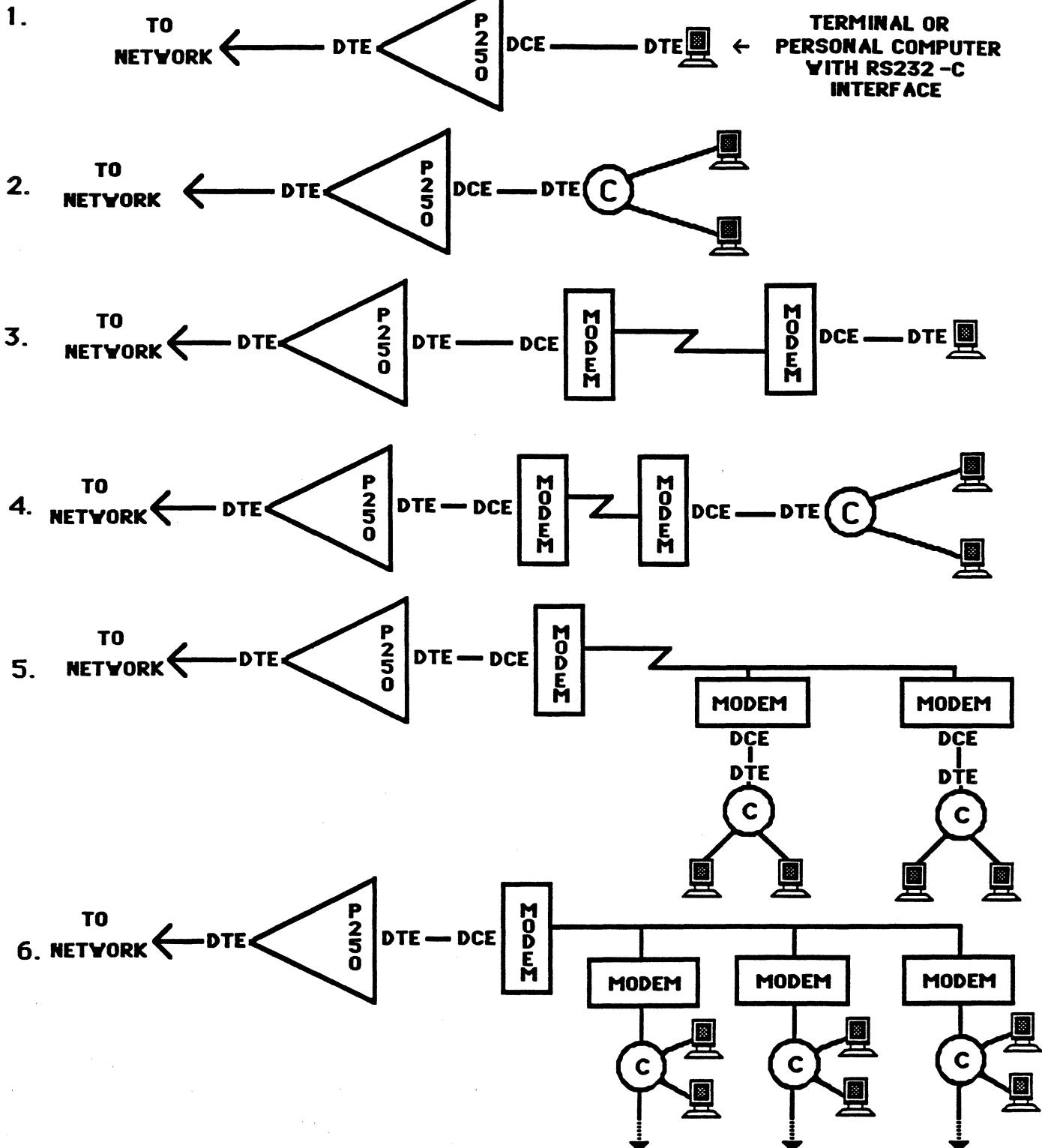
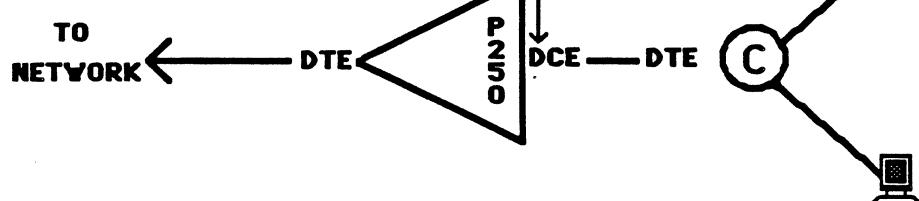
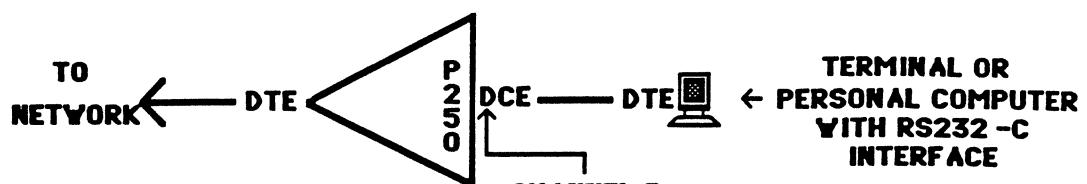
FIGURE 20P250 ↔ SYNCHRONOUS DEVICES

FIGURE 21

P250 (TPAD) \longleftrightarrow TERMINAL or CONTROLLER



CHANNEL B
SWITCHES
PHYSICAL DCE

= SWITCH ON

= SWITCH OFF



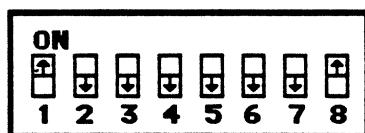
SWITCH 1



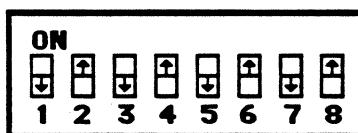
SWITCH 2



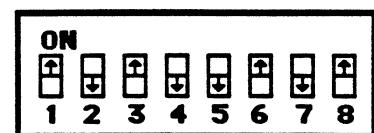
SWITCH 3



SWITCH 4 - HEX 81



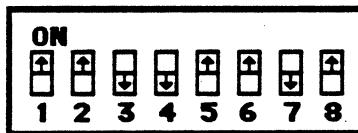
SWITCH 5 - HEX 55



SWITCH 6 - HEX A5

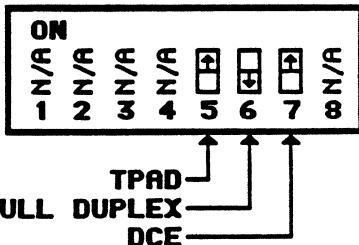


SWITCH 7



SWITCH 8 - HEX CD

FRONT PANEL SWITCH



CABLE - STRAIGHT THROUGH

PARAMETERS - N/A

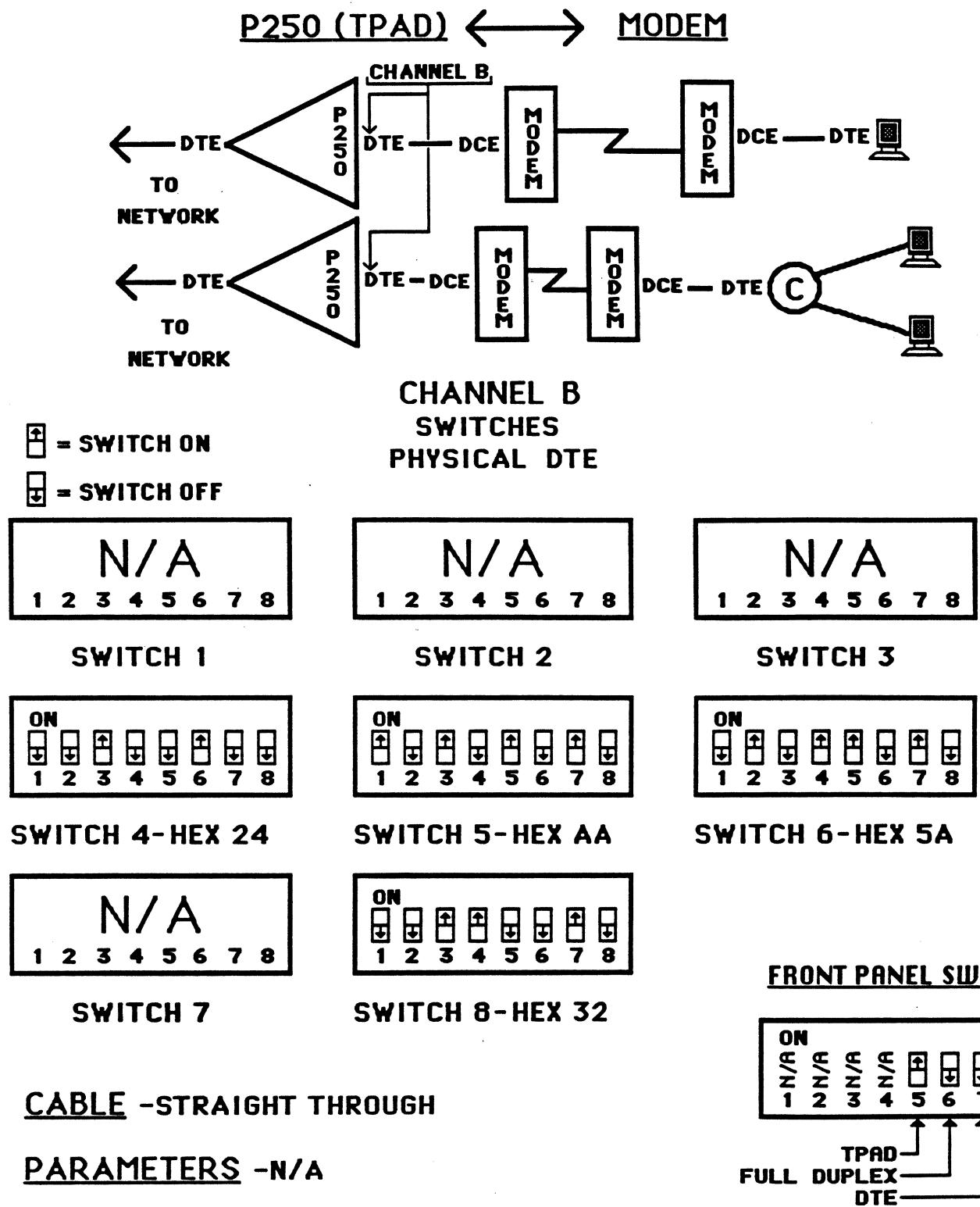
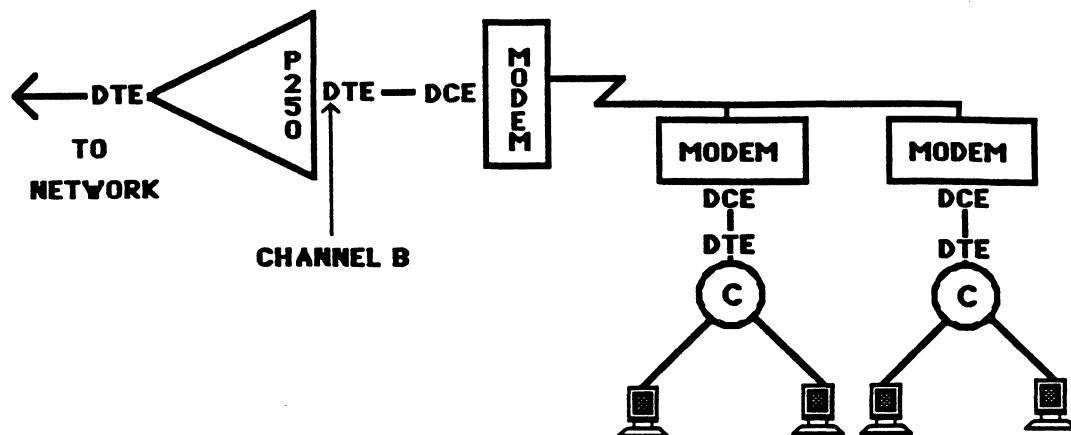
FIGURE 22

FIGURE 23

P250 (TPAD) \longleftrightarrow MODEM (Multidrop)



CHANNEL B

SWITCHES

PHYSICAL DCE

= SWITCH ON

= SWITCH OFF



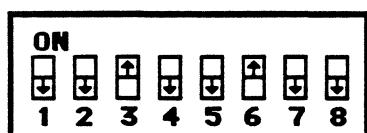
SWITCH 1



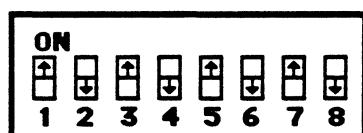
SWITCH 2



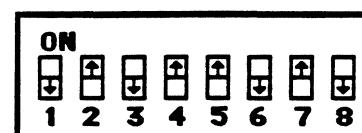
SWITCH 3



SWITCH 4-HEX 24



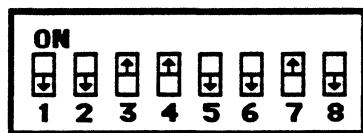
SWITCH 5-HEX AA



SWITCH 6-HEX 5A



SWITCH 7



SWITCH 8-HEX 32

FRONT PANEL SWITCH

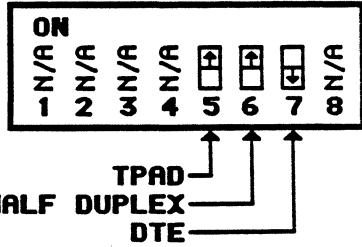
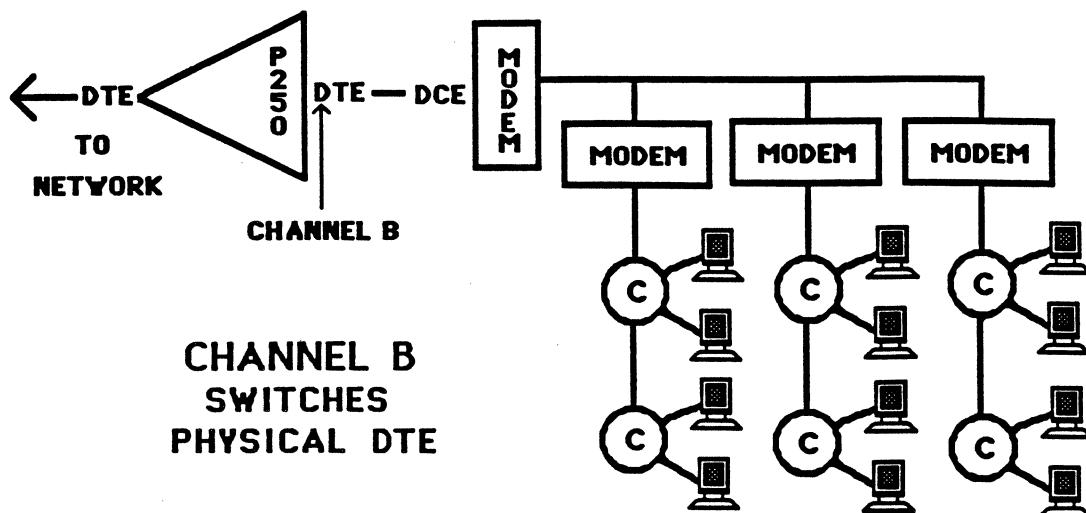
CABLE -STRAIGHT THROUGHPARAMETERS -N/A

FIGURE 24

P250(TPAD) \longleftrightarrow MODEM (Multidrop) [B]



= SWITCH ON

= SWITCH OFF



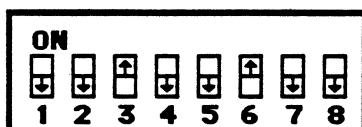
SWITCH 1



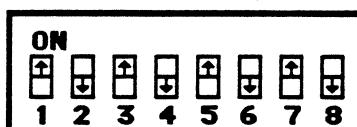
SWITCH 2



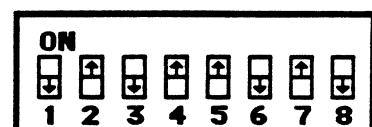
SWITCH 3



SWITCH 4-HEX 24



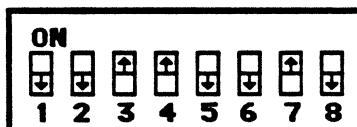
SWITCH 5-HEX AA



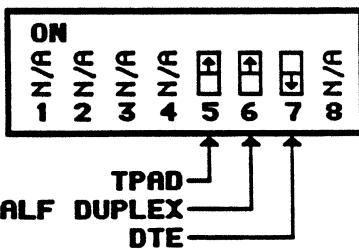
SWITCH 6-HEX 5A



SWITCH 7



SWITCH 8-HEX 32

FRONT PANEL SWITCH

CABLE -STRAIGHT THROUGH

PARAMETERS -N/A